

REMARKS

The Sequence Listing submitted herewith includes the sequences identified in the claims, which were added by Applicant's amendment filed November 15, 2001.

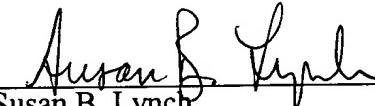
The undersigned hereby states that the computer readable form copy (CRF copy) of the Sequence Listing and the paper copy of the Sequence Listing, in accordance with 37 C.F.R. § 1.825(a) and (b), respectively, are the same and contain no new matter. Accordingly, entry of the Sequence Listing into the above-captioned case is respectfully requested.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 399632000623. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

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EXHIBIT A

In the Claims:

146. (Amended) A method for making a peptide which comprises an HLA-A2.1 restricted T cell binding motif, said binding motif consisting of 9-10 amino acid residues, and wherein said peptide binds an HLA-A2.1 molecule, said method comprising the steps of

(e) providing an amino acid sequence of an antigen of interest;

(f) identifying within said sequence a subsequence consisting of 9-10 amino acid residues which subsequence has a first amino acid anchor at position 2 of said subsequence selected from the group consisting of L, M, I, V, A and T and a second amino acid anchor residue at the C-terminus of said subsequence selected from the group consisting of A and M (SEQ ID NOS: 350-351); or

which subsequence has a first amino acid anchor at position 2 of said subsequence selected from the group consisting of I, V, A and T and a second amino acid anchor residue at the C-terminus of said subsequence selected from the group consisting of L, V, I, A and M (SEQ ID NOS 352-353);

(g) identifying a fragment of said antigen which contains a subsequence identified in step (b); and

(h) preparing a peptide which contains said fragment.

147. (Amended) The method of claim 146, wherein said subsequence consists of 9 amino acid residues and wherein

position 1 of said subsequence is not an amino acid selected from the group consisting of D, E and P (SEQ ID NOS: 354-355), or

position 3 or 7 of said subsequence is not an amino acid selected from the group consisting of D, E, R, K and H (SEQ ID NOS: 356-359), or

position 6 of said subsequence is not an amino acid selected from the group consisting of R, K and H (SEQ ID NOS: 360-361).

148. (Amended) The method of claim 147, wherein
position 1, 3 or 5 of said subsequence is selected from the group consisting of Y, F and W
(SEQ ID NOS: 362-381), or
position 4 of said subsequence is selected from the group consisting of S, T and C (SEQ ID NOS: 382-389), or
position 7 of said subsequence is A (SEQ ID NO: 390-395).

149. (Amended) The method of claim 146, wherein the subsequence consists of 10
amino acid residues, and wherein
position 1 of said subsequence is not an amino acid selected from the group consisting of
D, E and P (SEQ ID NOS: 396-397), or
position 3 of said subsequence is not an amino acid selected from the group consisting of
D and E (SEQ ID NOS: 398-399), or
position 4 of said subsequence is not an amino acid selected from the group consisting of
R, K, H and A (SEQ ID NOS: 400-401), or
position 5 of said subsequence is not P (SEQ ID NOS: 402-403), or
position 7 of said subsequence is not an amino acid selected from the group consisting of
R, K and H (SEQ ID NOS: 404-405), or
position 8 of said subsequence is not an amino acid selected from the group consisting of
D, E, R, K and H (SEQ ID NOS: 406-407), or
position 9 of said subsequence is not an amino acid selected from the group consisting of
R, K and H (SEQ ID NOS: 408-409).

150. (Amended) The method of claim 149, wherein
position 1 of said subsequence is selected from the group consisting of A, Y, F and W
(SEQ ID NOS: 410-423), or
position 3 of said subsequence is selected from the group consisting of L, V, I and M
(SEQ ID NOS: 424-435), or
position 4 of said subsequence is G (SEQ ID NOS: 436-447), or
position 8 of said subsequence is selected from the group consisting of Y, F, W, L, V, I
and M (SEQ ID NOS: 448-459).

154. (Amended) A method to design a peptide which consists of less than 15 amino acids and which peptide comprises a subsequence consisting of 9-10 amino acids which binds an HLA-A2.1 molecule which method comprises

- (e) providing an amino acid sequence of an antigen of interest;
- (f) identifying within said sequence an amino acid subsequence consisting of 9-10 amino acid residues which subsequence has a first amino acid anchor at position 2 of said subsequence selected from the group consisting of L, M, I, V, A and T and a second amino acid anchor at the C-terminus of said subsequence selected from the group consisting of A and M (SEQ ID NOS: 350-351); or

which subsequence has a first amino acid anchor at position 2 of said subsequence selected from the group consisting of I, V, A and T and a second amino acid anchor at the C-terminus of said subsequence selected from the group consisting of L, V, I, A and M (SEQ ID NOS: 352-353);

- (g) identifying a fragment of said antigen which contains a subsequence identified in step (b); and
- (h) designing a peptide which comprises said fragment.

156. (Amended) The method of claim 154, wherein said subsequence consists of 9 amino acid residues and wherein

position 1 of said subsequence is not an amino acid selected from the group consisting of D, E and P (SEQ ID NOS: 354-355), or

position 3 or 7 of said subsequence is not an amino acid selected from the group consisting of D, E, R, K and H (SEQ ID NOS: 356-359), or

position 6 of said subsequence is not an amino acid selected from the group consisting of R, K and H (SEQ ID NOS: 360-361).

157. (Amended) The method of claim 156, wherein
position 1, 3 or 5 of said subsequence is selected from the group consisting of Y, F and W (SEQ ID NOS: 362-381), or

position 4 of said subsequence is selected from the group consisting of S, T and C (SEQ ID NOS: 382-389), or

position 7 of said subsequence is A (SEQ ID NOS: 390-395).

158. (Amended) The method of claim 154, wherein the subsequence consists of 10 amino acid residues, and wherein

position 1 of said subsequence is not an amino acid selected from the group consisting of D, E and P (SEQ ID NOS: 396-397), or

position 3 of said subsequence is not an amino acid selected from the group consisting of D and E (SEQ ID NOS: 398-399), or

position 4 of said subsequence is not an amino acid selected from the group consisting of R, K, H and A (SEQ ID NOS: 400-401), or

position 5 of said subsequence is not P (SEQ ID NOS: 402-403), or

position 7 of said subsequence is not an amino acid selected from the group consisting of R, K and H (SEQ ID NOS: 404-405), or

position 8 of said subsequence is not an amino acid selected from the group consisting of D, E, R, K and H (SEQ ID NOS: 406-407), or

position 9 of said subsequence is not an amino acid selected from the group consisting of R, K and H (SEQ ID NOS: 408-409).

159. (Amended) The method of claim 158, wherein

position 1 of said subsequence is selected from the group consisting of A, Y, F and W (SEQ ID NOS: 410-423), or

position 3 of said subsequence is selected from the group consisting of L, V, I and M (SEQ ID NOS: 424-435), or

position 4 of said subsequence is G (SEQ ID NOS: 436-447), or

position 8 of said subsequence is selected from the group consisting of Y, F, W, L, V, I and M (SEQ ID NOS: 448-459).

160. (Amended) An isolated peptide of less than 15 amino acids and which comprises an HLA-A2.1 binding motif of 9-10 amino acids in length;

wherein said binding motif has a first amino acid anchor at position 2 of said motif which is I, and a second amino acid anchor at the C-terminus of said motif which is V, I, A or M (SEQ ID NOS: 460-461); or

wherein said binding motif has a first amino acid anchor at position 2 of said motif which is V, and a second amino acid anchor at the C-terminus of said motif which is L, V, I or M (SEQ ID NOS: 462-463); or

wherein said binding motif has a first amino acid anchor at position 2 of said motif which is A, and a second amino acid anchor at the C-terminus of said motif which is L, V or M (SEQ ID NOS: 464-465); or

wherein said binding motif has a first amino acid anchor at position 2 of said motif which is T, and a second amino acid anchor at the C-terminus of said motif which is L, I or M (SEQ ID NOS: 466-467); or

wherein said binding motif has a first amino acid anchor at position 2 of said motif which is L, and a second amino acid anchor at the C-terminus of said motif which is M (SEQ ID NOS: 468-469); or

wherein said binding motif has a first amino acid anchor at position 2 of said motif which is M, and a second amino acid anchor at the C-terminus of said motif which is A or M (SEQ ID NOS: 470-471); and

wherein a peptide that consists of said binding motif elicits a CTL response when complexed with said HLA-A2.1 molecule.

161. (Amended) An isolated peptide of claim 160, wherein said peptide has the sequence KVAELVHFL (SEQ ID NO: 472).